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Oceans and seas*

Report of the Secretary-General

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* The present report was prepared by the Subcommittee on Oceans and Coastal Areas of the Administrative Committee on Coordination as task manager for chapter 17 of Agenda 21, with contributions from international agencies and organizations. The report is a brief factual overview, which is intended to inform the Commission on Sustainable Development on key developments in the subject area.

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Introduction

1. Chapter 17 of Agenda 21[1] deals with the protection of the oceans, all kinds of seas, and coastal areas and the protection, rational use and development of their living resources. It highlights the special needs of small island developing States, whose fragility and vulnerability require particular attention. Underlying all these concerns is support for strengthening international, including regional, cooperation and coordination.

2. As recognized in chapter 17 of Agenda 21, international law, as reflected in the provisions of the United Nations Convention on the Law of the Sea,[2] sets forth rights and obligations of States and provides the international basis upon which to pursue the protection and sustainable development of the marine and coastal environment and its resources. Building on the Convention, which entered into force in 1994 and has to date been ratified by 135 States parties, as well as Agenda 21, Governments and the United Nations system have successfully negotiated a series of international agreements, principles and standards that are gradually creating a structure for the governance of the oceans. Many of these agreements and legally binding instruments have still not been adopted and/or ratified by member States, and all of them need to be more fully implemented; but it is a measure of the achievement that the international community has been able to agree on such a diverse and complex number of statements, principles and common goals dealing with the oceans.[3]

3. Owing to the sectoral nature of most ocean research, management and governance efforts, the present brief report on achievements and challenges facing the international community is organized according to the major programme areas identified in chapter 17 of Agenda 21.

I. Achievements

A. Integrated management and sustainable development of coastal areas

4. Significant progress has been achieved over the past decade in promoting an integrated approach to coastal management. At the beginning of the 1990s, efforts were limited to relatively few countries, and were concentrated at the local and community levels, especially in isolated regions, while today some level of coastal planning is present and regularly used in the great majority of coastal States, including small island developing States. Institutional development and legal codification of these new practices at the level of the State are also increasing.

5. National as well as regional programmes have been assisted by the various guidelines, principles, standards and networks on integrated coastal area management (ICAM) that have been developed by the Food and Agriculture Organization of the United Nations (FAO), the United Nations Development Programme (UNDP), the United Nations Educational, Scientific and Cultural Organization (UNESCO), the United Nations University (UNU), the World Bank and other agencies and organizations of the United Nations system. The Intergovernmental Oceanographic Commission (IOC) of UNESCO, with other partners, has created a clearing-house mechanism containing information on ICAM. The World Meteorological Organization (WMO) coordinates a global system to provide comprehensive marine climatological databases for all ocean areas, including coastal zones and exclusive economic zones (EEZs).

6. Coastal wetlands, including estuaries, marshes, mangrove swamps, lagoons, seagrass beds and coral reef systems, play a critical role in protecting coastal and marine ecosystems from storm surges and other weather-related events. In view of their importance, the parties to the Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar Convention)[4] are developing guidelines for integrating wetlands into coastal area management.

7. The widespread bleaching and destruction of coral reefs in recent years have been linked to a number of factors, both natural and man-made. An estimated 27 per cent of reefs are thought to have been lost owing to both direct human impacts and the effects of climate change events in 1997-1998, and predictions are that a further 32 per cent of the world's coral reefs may be functionally destroyed within the next 30 years unless urgent measures are undertaken.[5] Several international collaborative partnerships have been formed or strengthened to deal with and reverse the threat to reefs, which provide food and livelihoods for millions of people living in coastal areas and support unique and valuable marine biodiversity. These include

the International Coral Reef Initiative (ICRI), the International Coral Reef Action Network (ICRAN) and the Global Coral Reef Monitoring Network (GCRMN).

B. Marine environmental protection

8. Two main conceptual innovations are at the base of many of the important efforts to protect the marine environment undertaken during the decade: the increasing acceptance of the precautionary approach and the introduction of an ecosystem-based approach to management. The precautionary approach, as set forth in principle 15 of the Rio Declaration on Environment and Development,[6] has successfully moved from general guideline to practical use and application (for example, with respect to some regional fisheries management organizations) and has been incorporated into several national laws and international agreements. An ecosystem-based approach is central to the implementation of the Convention on Biological Diversity[7] and also in the elaboration of the Large Marine Ecosystem (LME) projects currently being implemented in 58 countries in Africa, Asia, Latin America and eastern Europe. The Global Environment Facility (GEF) funds marine ecosystem projects totalling about US$ 200 million under its international waters and biodiversity components. Both concepts are increasingly seen as a means of advancing marine environmental protection and sustainable development, although the lack of precise definitions has to some extent limited their application.

9. An important impetus to develop new approaches and methods for preventing the degradation of the marine environment was the adoption in 1995 of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities,[8] known as the GPA. The GPA provides conceptual and practical guidance to national and/or regional authorities. A major goal is the development of a clearing-house mechanism as a referral system to mobilize experience and expertise, and to facilitate scientific, technical and financial cooperation. The establishment by the United Nations Environment Programme (UNEP) of a GPA Coordination Office in The Hague has furthered these objectives, initiating the preparation of nine regional assessments of land-based activities and eight regional programmes of action between 1996 and 1999. The first Intergovernmental Review Meeting on implementation of the GPA will take place in Montreal, Canada, from 26 to 30 November 2001.[9]

10. Cooperation and collaboration among United Nations agencies and organizations are particularly important in furthering the implementation of the GPA, especially in relation to the clearing-house mechanism within which individual organizations have been designated "lead agencies" for specific pollutant source categories. Ongoing activities undertaken in support of this work include the joint inter-agency Marine Pollution Emergency Response Support System to assist countries in setting up monitoring programmes and increase their capacity-building. A number of organizations have expanded training programmes to build up national capacities, particularly in developing countries, in marine environmental monitoring and assessment. These include: the United Nations/UNDP Train-Sea-Coast programme, which operates a network of 17 training centres worldwide; the International Atomic Energy Agency (IAEA) Marine Environment Laboratory (MEL), the only marine laboratory in the United Nations system; and UNU. Many other specific programmes and activities are being undertaken by United Nations agencies and organizations in pursuance of these goals.

C. Sustainable use and conservation of marine living resources

11. Recent estimates by FAO indicate that at least 60 per cent of world fisheries are either fully exploited or overfished. While the proportion of stocks that are overfished is now growing at a slower rate than in the mid-1990s, FAO estimates that the total marine catches from most of the main fishing areas in the Atlantic Ocean and some in the Pacific Ocean may have reached their maximum potential years ago, and substantial total catch increases from those areas are unlikely. The implications of such developments for global food security and income generation for both present and future generations were assessed by the Commission on Sustainable Development when it reviewed oceans and seas at its seventh session. The Commission recommended, inter alia, that particular priority be given to the conservation, integrated and sustainable management and sustainable use of marine living resources, including the ecosystems of which they are a part.[10]

12. A great deal of progress has been achieved in the area of responsible fisheries development and management as a result of the United Nations Convention on the Law of the Sea and the adoption of a number of complementary international instruments and voluntary agreements. The FAO Code of Conduct for Responsible Fisheries of the Food and Agriculture Organization of the United Nations[11] (adopted by the Conference of FAO in 1995) has influenced many countries with respect to modifying their fisheries laws to facilitate its implementation. Also under FAO auspices, three International Plans of Action were adopted in 1999 and are being implemented to: improve shark management; reduce by-catch of seabirds in long-line fisheries; and control and reduce fishing capacity. However, several important international agreements require further ratification or accession to by States to become effective, most notably, the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks[12] (the 1995 Agreement on Fish Stocks), which needs three more ratifications to enter into force, and the 1993 FAO Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas[13] (the Compliance Agreement), which requires six more acceptances.

13. The prevalence of illegal, unregulated and unreported (IUU) fishing, both on the high seas and within EEZs, remains one of the most severe problems affecting world fisheries. The issue was given priority attention by the first meeting of the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea (New York, 30 May-2 June 2000), which welcomed the work being undertaken by FAO to develop a comprehensive International Plan of Action to prevent, deter and eliminate IUU fishing, in accordance with international law. The new, non-binding International Plan of Action was adopted by the FAO Committee on Fisheries in early 2001.

14. In response to recommendations by the Commission on Sustainable Development and other bodies, several regional fishery bodies have undertaken a systematic review of their operations with a view to improving their effectiveness, and institutional arrangements for new regional fisheries management organizations have been made or are being finalized (for example, in south-west Africa, and in the central and western Pacific). Cooperation between Governments, non-governmental organizations and industry has led to the elaboration of guidelines for sustainable aquaculture, and guidelines have been developed (and are being tested) for indicators of sustainable development in fisheries. Particular efforts are being made to ensure sustainable livelihoods to small-scale fishers and coastal communities. As a contribution to the 10-year review of the United Nations Conference on Environment and Development, the Government of Iceland and FAO are organizing a conference on responsible fisheries in the marine ecosystem, to be held in Reykjavik from 1 to 4 October 2001.

D. Addressing critical uncertainties for the management of the marine environment and climate change

15. The past 10 years have seen a turning point in terms of understanding and measuring the role of the oceans in global climate change. With significant improvements in the ability of computer models and technology to research and monitor climate changes, the collection of previously unavailable information is now being organized and utilized through a concerted inter-agency and intergovernmental effort to continuously monitor the major planetary processes. The International Oceanographic Data and Information Exchange (IODE) programme of UNESCO/IOC comprises a network of national oceanographic data centres in more than 60 countries, and regional ocean data and information networks in Africa, Latin America and the Caribbean and the Western Pacific have been developed and strengthened. The development, by UNESCO/IOC, WMO and the International Council of Scientific Unions (ICSU), of the Global Ocean Observing System (GOOS) provides a capability to predict strong weather events such as El Niño/La Niña. Since 1998, GOOS has been working closely with the Global Terrestrial Observing System (GTOS) and the Global Climate Observing System (GCOS) to form a single Integrated Global Observing Strategy (IGOS), in partnership with national space agencies, for better observation of the atmosphere, oceans and land.

16. A very significant development is the January 2001 release of a major new assessment report by the

Intergovernmental Panel on Climate Change (IPCC), which has found there is new and stronger evidence that most of the global warming observed over the last 50 years is attributable to human activities. IPCC, which brings together over 100 leading scientists from around the world and is jointly sponsored by UNEP and WMO, warns of a potentially devastating global warming over the coming century, with impacts of rising sea levels and changing rain patterns.[14] Floods, drought and extremely high temperatures could threaten the life and livelihoods of millions of people living in low-lying coastal areas. Residents of small island developing States would be most at risk from warmer temperatures and rising sea levels, while the degradation of coastal habitats including coral reefs could accelerate.

17. Gaps still remain, however, in the collection and understanding of scientific data related to the oceans and atmosphere. United Nations system efforts, many carried out in partnership with national agencies as well as the private sector and non-governmental organizations, are addressing the removal of critical uncertainties by pursuing four main lines of action: (a) facilitating, promoting and coordinating appropriate research; (b) developing and implementing appropriate operational observing and forecasting programmes; (c) providing data and information services in support of both research and operations; and (d) working through training, education and mutual assistance to improve the capacity of developing countries.

E. Strengthening international, including regional, cooperation and coordination

18. Chapter 17 of Agenda 21 concluded that there was a need to improve coordination and strengthen links among the numerous national and international, including regional, institutions, both within and outside the United Nations system, with competence in marine issues. The Commission on Sustainable Development addressed the question of strengthening means of cooperation and coordination at its fourth (1996) and seventh (1999) sessions, noting at the latter "that oceans and seas present a special case as regards the need for international coordination and cooperation".[15]

19. The Commission on Sustainable Development in 1999 also urged that, building on existing arrangements, a more integrated approach was required to all legal, economic, social and environmental aspects of oceans and seas, both at intergovernmental and at inter-agency levels. The General Assembly, in its resolution 54/33, endorsed the recommendations made by the Commission on oceans and seas regarding international coordination and cooperation and decided, inter alia, to establish an open-ended informal consultative process to facilitate, in an effective and constructive manner, its annual review of developments in ocean affairs.

20. The new United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea held its first meeting in New York from 30 May to 2 June 2000. It addressed, in particular, issues related to IUU fishing and economic and social impacts of marine pollution and degradation, especially in coastal areas. The report on the work of the consultative process (A/55/274) was considered by the General Assembly at its fifty-fifth session under the agenda item entitled "Oceans and the law of the sea". The Assembly, in its resolution 55/7, requested the Secretary-General to convene the second meeting of the Consultative Process in New York from 7 to 11 May 2001 with the following two areas of focus: marine science and the development and transfer of marine technology as mutually agreed, including capacity-building in that regard; and coordination and cooperation in combating piracy and armed robbery at sea.

21. Considerable expertise has been built up within the United Nations system over the years in ocean matters, mostly based on sectoral and intergovernmental mandates. In recognition of this, the Inter-agency Committee on Sustainable Development of the Administrative Committee on Coordination (ACC) created a new ACC Subcommittee on Oceans and Coastal Areas comprising all relevant United Nations organizations to serve as task manager for chapter 17 of Agenda 21. The Subcommittee also acts as inter-agency facilitating mechanism for the implementation of the GPA (see para. 9 above). It conceived and is developing the United Nations Atlas of the Oceans, a joint effort funded by the United Nations Foundation to present an integrated information system on the sustainable use of ocean resources. The Atlas will be available as a comprehensive, cooperatively maintained web site (based in FAO) as well as a CD-ROM.[16]

22. International cooperation on the oceans has also developed new modes of action and thinking. For

example, the establishment in 1999 by the governing bodies of WMO and UNESCO/IOC of the joint Technical Commission for Oceanography and Marine Meteorology represents a new paradigm in international cooperation, in which two United Nations organizations have agreed to pool resources and expertise to address, on a continuing basis, common challenges. Partnerships that span beyond the United Nations system to incorporate non-governmental organizations, international financial institutions and governmental organizations have also been developed. This increasingly involves public and private sectors in joint programmes and projects.

23. A long-standing example of inter-agency collaboration with the scientific community on technical issues related to the oceans is the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP), sponsored by the United Nations, the International Maritime Organization (IMO), FAO, UNESCO/IOC, WMO, the World Health Organization (WHO), IAEA and UNEP. GESAMP provides independent advice, inter alia, on the assessment of potential effects of pollutants; sustainable coastal aquaculture; the development of scientific bases for marine research and monitoring programmes; and the exchange of scientific information. In 2001, two major reports were published: on land-based activities affecting the marine, coastal and associated freshwater environment; and an overall assessment study entitled "A Sea of Troubles: Issues in Focus". In response to the recommendations of the Commission on Sustainable Development, GESAMP is currently undergoing an in-depth and independent evaluation, initiated by its sponsoring agencies, to make this advisory mechanism more effective and responsive, inter alia, to member States.

II. Constraints and challenges

24. The Commission on Sustainable Development, at its seventh session (decision 7/1, para. 1), emphasized "the fundamental fact that oceans and seas constitute the major part of the planet that supports life, drive the hydrological cycle, and provide the vital resources to be used to ensure well-being for present and future generations and economic prosperity, to eradicate poverty, to ensure food security and to conserve marine biological diversity and its intrinsic value for maintaining the conditions that support life on earth". Given such a broad and important range of functions, goals and responsibilities, it is clear that the challenges to be met in reaching these objectives are significant. As a growing understanding of the oceans has led the international community to recognize that the seas and their resources are not limitless, as was once assumed, there is greater appreciation of their importance to global sustainable development.

25. In contrast with the situation on land, where innovative management practices are based on long-established laws and institutions, the mechanisms for the sustainable development and management of the oceans that have been established under the United Nations Convention on the Law of the Sea, and based on international law, are still fairly new and as yet insufficiently tested by time and practical use.[17] Furthermore, if on land the jurisdiction of the State can guarantee compliance with the law through strong enforcement mechanisms, the new institutions governing the oceans face the challenge of having to protect the largest commons on the surface of the planet without such support. These constraints define a special and unique role and responsibility for the international community vis-à-vis the challenge of ocean governance.

26. The proliferation in recent years of international and regional agreements, both legally binding and voluntary, dealing with all aspects of ocean affairs, while contributing to international norm-setting, has made implementation at the national level more and more difficult. New conventions and protocols have been negotiated, but many have not yet come into force. National authorities are also often faced with complex and sometimes contradictory domestic mandates and priorities affecting oceans management and the protection of the marine and coastal environment. A few Governments are addressing this situation by seeking to integrate relevant policies, activities and laws under a unified national oceans strategy.

27. International agreements and legal instruments elaborated since the United Nations Conference on Environment and Development call for integrated approaches to policy formulation and implementation which cut across the traditional sectoral boundaries of national and international institutions. Effective action requires a strong commitment to coordination and collaboration among all partners to bring

implementation up to the level of the expanding international, regional and national normative framework. As called for in Agenda 21 and reaffirmed by the Commission on Sustainable Development, the General Assembly and other bodies, progress in achieving the goals on oceans and seas can best be realized through the collaboration and participation of all relevant partners, including Governments, intergovernmental and international organizations, the scientific community and other major groups, including non-governmental organizations. To further these efforts, a global conference entitled "Oceans and Coasts at Rio+10: Assessing Progress, Addressing Continuing and New Challenges" is being organized by UNESCO/IOC, together with a non-governmental organization/scientific committee, to be held in Paris, 3-7 December 2001. The conference is expected to address all aspects of the post-United Nations Conference on Environment and Development oceans and coasts agenda, provide an overall perspective and assessment, and seek new directions on cross-sectoral issues.

Notes

[1] *Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992*, vol. I, *Resolutions Adopted by the Conference* (United Nations publication, Sales No. E.93.I.8 and corrigendum), resolution 1, annex II.

[2] *Official Records of the Third United Nations Conference on the Law of the Sea*, vol. XVII (United Nations publication, Sales No. E.84.V.3), document A/CONF.62/122.

[3] For a comprehensive discussion of the United Nations Convention on the Law of the Sea, its implementing agreements and the newly established institutions resulting from it, as well as a review of United Nations system activities and agreements relating to oceans and seas, see the annual reports of the Secretary-General on oceans and the law of the sea, submitted to the General Assembly and its open-ended informal consultative process on oceans and the law of the sea (A/55/61 and A/56/58).

[4] United Nations, *Treaty Series*, vol. 996, No. 14583. There are currently 123 parties to the Convention.

[5] See, for example, *Status of Coral Reefs of the World, 2000*, Clive Wilkinson, ed. (Queensland, Australia, Queensland Institute of Marine Science, 2000).

[6] *Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992*, vol. I, *Resolutions Adopted by the Conference* (United Nations publication, Sales No. E.93.I.8 and corrigendum), resolution 1, annex I.

[7] See United Nations Environment Programme, *Convention on Biological Diversity* (Environmental Law and Institution Programme Activity Centre), June 1992.

[8] A/51/116, annex II.

[9] For further information on the GPA and its Clearing-House, see www.gpa.unep.org.

[10] See *Official Records of the Economic and Social Council, 1999, Supplement No. 9* (E/1999/29), chap. I, sect. C, decision 7/1, para. 3 (a); see also report of the Secretary-General to the Commission on Sustainable Development at its seventh session on oceans and seas (E/CN.17/1999/4, paras. 14-15).

[11] *International Fisheries Instruments* (United Nations publication, Sales No. E.98.V.11), sect. III.

[12] Ibid., sect. I; see also A/CONF.164/37.

[13] Ibid., sect. II.

[14] IPCC, *Third Assessment Report. Volume I: Climate Change 2001: The Scientific Basis*, January 2001. The report's Summary for Policymakers is available at *http://www.ipcc.ch*. The complete three-volume Third Assessment Report of IPCC will be submitted for final review to an intergovernmental conference in Accra, Ghana, in March 2001.

[15] *Official Records of the Economic and Social Council, 1999, Supplement No. 9* (E/1999/29), chap. I, sect. C, decision 7/1, para. 38.

[16] For further information on the activities of the ACC Subcommittee on Oceans and Coastal Areas, see: *http://ioc.unesco.org/soca*.

[17] For example, the International Seabed Authority, the International Tribunal for the Law of the Sea and the Commission on the Limits of the Continental Shelf began functioning in 1994, 1996 and 1997, respectively.